

What is claimed:

1. A cross-tie for a railroad rail assembly, said cross-tie comprising:

a plurality of tire treads, said tire treads being stacked and secured to one another via an interposed membrane and an adhesive to form a stacked structure, said stacked structure having a height defining a height direction, a width defining a width direction and a length defining a length direction, wherein said tire treads are stacked in said height direction;

first and second support members respectively disposed on a first side and an opposed second side of said stacked structure such that said stacked structure is interposed between said first and second support members in said width direction, said first and second support members each having a height substantially coinciding with said height of said stacked structure, a width, and a length substantially coinciding with said length of said stacked structure, wherein said first and second support members are respectively secured to said first and second sides of said stacked structure via at least one of an interposed cement, an adhesive and a membrane; and

a third support member disposed on an upper surface of each said first and second support members and on an upper surface of said stacked structure, said third support member having a height, a length that substantially coincides with said lengths of said stacked structure and each said first and second support members, and a width that is greater than said width of said stacked structure so that said third support member overlaps said upper surfaces of said stacked structure and said first and second support members in said width direction such that said third support member substantially covers said upper surfaces of said first and second support members and said upper surface of said stacked structure, wherein said third support member is respectively secured to said upper surfaces of said stacked structure and said first and second support members via at least one of an interposed cement, an adhesive and a membrane;

whereby a width of said cross-tie is defined by said width of said third support member, a height of said cross-tie is defined by a combined height of said stacked structure and said third support member, and a length of said cross-tie is defined by

any one of said length of said stacked structure, said first support member, said second support member, and said third support member; and

wherein a lower surface of said cross-tie is defined by one of said tire treads of said stacked structure.